

## REMARKS

This is a full and timely response to the outstanding final Office Action mailed November 16, 2006. Upon entry of the amendments in this response, claims 1 – 29 and 31 – 64 remain pending. In particular, Applicants amend claims 1, 39, 63, and 64. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

### **I. Claim 1 is Allowable Over *Pandya* in view of *Aras***

The Office Action indicates that claim 1 stands rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,671,724 ("*Pandya*") in view of U.S. Patent Number 5,884,037 ("*Aras*"). Applicants respectfully traverse this rejection for at least the reason that *Pandya* in view of *Aras* fails to disclose, teach, or suggest all of the elements of claim 1. More specifically, claim 1 recites:

A method of providing network access across a shared communications medium in a downstream direction towards competing users, comprising the steps of:

(a) monitoring network access usage by at least one user during a time interval;

(b) determining whether the at least one user has previously been assigned a forecast function;

(c) in response to determining that the at least one user has not previously been assigned a forecast function, assigning a forecast function to the at least one user;

(d) in response to determining that the at least one user has previously been assigned a forecast function, ***determining whether to check for a seasonal cycle of the at least one user, wherein determining whether to check for a seasonal cycle of the at least one user includes determining an elapsed time since a previous seasonal check;***

(e) forecasting downstream network access usage by the at least one user during a future time interval based on said monitored network access usage by the at least one user and said forecast function; and

(f) based on said forecasting, allocating network access to each user on a per user basis for a future time interval. ***(emphasis added)***

Applicants respectfully submit that claim 1, as amended, is allowable over the cited art for at least the reason that neither *Pandya* nor *Aras* disclose, teach, or suggest a "method of

providing network access across a shared communications medium in a downstream direction towards competing users, comprising the steps of... in response to determining that the at least one user has previously been assigned a forecast function, **determining whether to check for a seasonal cycle of the at least one user, wherein determining whether to check for a seasonal cycle of the at least one user includes determining an elapsed time since a previous seasonal check**" as recited in claim 1, as amended. More specifically, *Aras* appears to disclose a "seasonal ARIMA model [that] is a general class of models used to forecast a time series entirely from its own history" (column 4, line 33). However, nowhere in *Aras* is there any suggestion of "in response to determining that the at least one user has previously been assigned a forecast function, **determining whether to check for a seasonal cycle of the at least one user, wherein determining whether to check for a seasonal cycle of the at least one user includes determining an elapsed time since a previous seasonal check**" for at least this reason, claim 1, as amended, is allowable over the cited art. Additionally, Applicants respectfully submit that *Pandya* fails to overcome the deficiencies of *Aras*. For at least this additional reason, claim 1, as amended, is allowable over the cited art.

## II. **Claim 39 is Allowable Over *Pandya* in view of *Aras***

The Office Action indicates that claim 39 stands rejected under 35 U.S.C. 103(a) as being unpatentable over *Pandya* in view of *Aras*. Applicants respectfully traverse this rejection for at least the reason that *Pandya* in view of *Aras* fails to disclose, teach, or suggest all of the elements of claim 39. More specifically, claim 39 recites:

A method of providing network access across a shared communications medium between competing users, comprising the steps of:

- (a) monitoring network access usage by at least one user during a time interval;
- (b) determining whether the at least one user has been assigned a forecast function;
- (c) in response to determining that the at least one user has been assigned a forecast function, **determining whether to check for a**

***seasonal cycle related to the user, wherein determining whether to check for a seasonal cycle of the at least one user includes determining an elapsed time since a previous seasonal check;***

(d) in response to determining to check for a seasonal cycle, executing a seasonal identifier algorithm;

(e) forecasting upstream and downstream network access usage by the at least one user during a future time interval based on said monitored network access usage by the at least one user; and

(f) based on said forecasted network access usage, allocating network access to the at least one user for the future time interval.  
***(emphasis added)***

Applicants respectfully submit that claim 39, as amended, is allowable over the cited art for at least the reason that neither *Pandya* nor *Aras* disclose, teach, or suggest a “method of providing network access across a shared communications medium in a downstream direction towards competing users, comprising the steps of... in response to determining that the at least one user has previously been assigned a forecast function, ***determining whether to check for a seasonal cycle of the at least one user, wherein determining whether to check for a seasonal cycle of the at least one user includes determining an elapsed time since a previous seasonal check***” as recited in claim 39, as amended. More specifically, *Aras* appears to disclose a “seasonal ARIMA model [that] is a general class of models used to forecast a time series entirely from its own history” (column 4, line 33). However, nowhere in *Aras* is there any suggestion of “in response to determining that the at least one user has previously been assigned a forecast function, ***determining whether to check for a seasonal cycle of the at least one user, wherein determining whether to check for a seasonal cycle of the at least one user includes determining an elapsed time since a previous seasonal check***” for at least this reason, claim 39, as amended, is allowable over the cited art. Additionally, Applicants respectfully submit that *Pandya* fails to overcome the deficiencies of *Aras*. For at least this additional reason, claim 39, as amended, is allowable over the cited art.

**III. Claims 2 – 4, 6, 8 – 11, 13, 15 – 25, 28 – 29, 31, 33 – 37, 40, 42 – 54, 57 – 59, 61 and 62 are Allowable Over *Pandya* in view of *Aras***

The Office Action indicates that claims 2 – 4, 6, 8 – 11, 13, 15 – 25, 28 – 29, 31, 33 – 37, 40, 42 – 54, 57 – 59, 61 and 62 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Pandya* in view of *Aras*. Applicants respectfully traverse this rejection for at least the reason that *Pandya* in view of *Aras* fails to disclose, teach, or suggest all of the elements of claims 2 – 4, 6, 8 – 11, 13, 15 – 25, 28 – 29, 31, 33 – 37, 40, 42 – 54, 57 – 59, 61, and 62. More specifically, dependent claims 2 – 4, 6, 8 – 11, 13, 15 – 25, 28 – 29, 31, and 33 – 37 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 1. Dependent claims 40, 42 – 54, 57 – 59, 61, and 62 are believed to be allowable for at least the reason that they depend from allowable independent claim 39. *In re Fine, Minnesota Mining and Mfg.Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002).

**IV. Claims 5 and 7 are Allowable Over *Pandya* in view of *Aras*, and in further view of *Barnes***

The Office Action indicates that claims 5 and 7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Pandya* in view of *Aras*, and in further view of U.S. Patent No. 6,529,486 (“*Barnes*”). Applicants respectfully traverse this rejection for at least the reason that *Pandya* in view of *Aras*, and in further view of *Barnes* fails to disclose, teach, or suggest all of the elements of claims 5 and 7. More specifically, dependent claims 5 and 7 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 1. *In re Fine, Minnesota Mining and Mfg.Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002).

V. **Claims 12, 38, and 60 are Allowable Over *Pandya* in view of *Aras*, and in further view of *Hanko***

The Office Action indicates that claims 12, 38, and 60 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Pandya* in view of *Aras*, and in further view of U.S. Patent No. 6,438,141 ("*Hanko*"). Applicants respectfully traverse this rejection for at least the reason that *Pandya* in view of *Aras*, and in further view of *Hanko* fails to disclose, teach, or suggest all of the elements of claims 12, 38, and 60. More specifically, dependent claims 12 and 38 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 1. Dependent claim 60 is believed to be allowable for at least the reason that this claim depends from allowable independent claim 39. *In re Fine, Minnesota Mining and Mfg.Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002).

VI. **Claim 63 is Allowable Over *Pandya* in view of *Aras* and in further view of *Farah***

The Office Action indicates that claim 63 stands rejected under 35 U.S.C. 103(a) as being unpatentable over *Pandya* in view of *Aras* and in further view of U.S. Patent No. 6,657,418 ("*Farah*"). Applicants respectfully traverse this rejection. More specifically, claim 63 recites:

A method of providing network access across a shared communications medium of a Cable Network between competing users, comprising the steps of:

(a) monitoring network access usage by at least one user for a time interval;

(b) determining whether the at least one user has previously been assigned a forecast function;

(c) in response to determining that the at least one user has not been assigned a forecast function, assigning a forecast function to the at least one user;

(d) in response to determining that the at least one user has previously been assigned a forecast function, ***determining whether to check for a seasonal cycle of the at least one user, wherein determining whether to check for a seasonal cycle of the at least one user includes determining an elapsed time since a previous seasonal check;***

(e) based on said monitoring and said assigned forecast function, forecasting the number of logical data units (LDUs) of at least one user that will be transmitted over a future time interval; and

(f) based on said forecasting, allocating network access available to the at least one user for the future time interval. **(emphasis added)**

Applicants respectfully submit that claim 63, as amended, is allowable over the cited art for at least the reason that *Aras* fails to disclose, teach, or suggest a “method of providing network access across a shared communications medium of a Cable Network between competing users, comprising the steps of... in response to determining that the at least one user has previously been assigned a forecast function, **determining whether to check for a seasonal cycle of the at least one user, wherein determining whether to check for a seasonal cycle of the at least one user includes determining an elapsed time since a previous seasonal check**” as recited in claim 63, as amended. More specifically, *Aras* appears to disclose a “seasonal ARIMA model [that] is a general class of models used to forecast a time series entirely from its own history” (column 4, line 33). However, nowhere in *Aras* is there any suggestion of “in response to determining that the at least one user has previously been assigned a forecast function, **determining whether to check for a seasonal cycle of the at least one user, wherein determining whether to check for a seasonal cycle of the at least one user includes determining an elapsed time since a previous seasonal check**” for at least this reason, claim 63, as amended, is allowable over the cited art.

**VII. Claim 64 is Allowable Over *Pandya* in view of *Aras* and in further view of *Farah***

The Office Action indicates that claim 64 stands rejected under 35 U.S.C. 103(a) as being unpatentable over *Pandya* in view of *Aras* and in further view of *Farah*. Applicants respectfully traverse this rejection. More specifically, claim 64 recites:

A method of providing network access across a shared communications medium of a Cable Network between competing users, comprising the steps of:

- (a) monitoring network access usage requested by each user for a time interval;
- (b) determining whether the at least one user has previously been assigned a forecast function;
- (c) in response to determining that the at least one user has been previously been assigned a forecast function, determining whether to check for a seasonal cycle related to the user;
- (d) in response to determining that the at least one user has previously been assigned a forecast function, **determining whether to check for a seasonal cycle of the at least one user, wherein determining whether to check for a seasonal cycle of the at least one user includes determining an elapsed time since a previous seasonal check;**
- (e) forecasting the number of logical data units (LDUs) that will be requested by each user over a future time interval based on said monitoring and said forecast function; and
- (f) based on said forecasting, allocating network access available to each user for the future time interval. (**emphasis added**)

Applicants respectfully submit that claim 64, as amended, is allowable over the cited art for at least the reason that Aras fails to disclose, teach, or suggest a “method of providing network access across a shared communications medium of a Cable Network between competing users, comprising the steps of... in response to determining that the at least one user has previously been assigned a forecast function, **determining whether to check for a seasonal cycle of the at least one user, wherein determining whether to check for a seasonal cycle of the at least one user includes determining an elapsed time since a previous seasonal check**” as recited in claim 64, as amended. More specifically, Aras appears to disclose a “seasonal ARIMA model [that] is a general class of models used to forecast a time series entirely from its own history” (column 4, line 33). However, nowhere in Aras is there any suggestion of “in response to determining that the at least one user has previously been assigned a forecast function, **determining whether to check for a seasonal cycle of the at least one user, wherein determining whether to check for a seasonal cycle of the at least one user includes determining an elapsed time since a previous seasonal check**” for at least this reason, claim 64, as amended, is allowable over the cited art.

**VIII. Claim 14 is Allowable Over Pandya in view of Aras and in further view of Farah**

The Office Action indicates that claim 14 stands rejected under 35 U.S.C. 103(a) as being unpatentable over *Pandya* in view of *Aras* and in further view of *Farah*. Applicants respectfully traverse this rejection. More specifically, dependent claim 14 is believed to be allowable for at least the reason that this claim depends from allowable independent claim 1. *In re Fine, Minnesota Mining and Mfg.Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002).

**IX. Claims 26 and 55 are Allowable Over Pandya in view of Aras and in further view of Gemar**

The Office Action indicates that claims 26 and 55 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Pandya* in view of *Aras* and in further view of U.S. Patent No. 6,483,839 ("*Gemar*"). Applicants respectfully traverse this rejection for at least the reason that *Pandya* in view of *Aras* and in further view of *Gemar* fails to disclose, teach, or suggest all of the elements of claims 26 and 55. More specifically, dependent claim 26 is believed to be allowable for at least the reason that this claim depends from allowable independent claim 1. Dependent claim 55 is believed to be allowable for at least the reason that this claim depends from allowable independent claim 39. *In re Fine, Minnesota Mining and Mfg.Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002).

**X. Claims 27 and 56 are Allowable Over Pandya in view of Aras and in further view of Hou**

The Office Action indicates that claims 27 and 56 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Pandya* in view of *Aras* and in further view of U.S. Patent No. 6,324,184 ("*Hou*"). Applicants respectfully traverse this rejection for at least the reason that *Pandya* in view of *Aras* and in further view of *Hou* fails to disclose, teach, or suggest all of the elements of claims 27 and 56. More specifically, dependent claim 27 is believed to be allowable for at least the reason that this claim depends from allowable independent claim 1. Dependent



claim 56 is believed to be allowable for at least the reason that this claim depends from allowable independent claim 39. *In re Fine, Minnesota Mining and Mfg.Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002).

**XI. Claims 32 and 41 are Allowable Over Pandya in view of Aras and in further view of Huang**

The Office Action indicates that claims 32 and 41 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Pandya* in view of *Aras* and in further view of U.S. Patent No. 6,151,852 ("*Huang*"). Applicants respectfully traverse this rejection for at least the reason that *Pandya* in view of *Aras* and in further view of *Huang* fails to disclose, teach, or suggest all of the elements of claims 32 and 41. More specifically, dependent claim 32 is believed to be allowable for at least the reason that this claim depends from allowable independent claim 1. Dependent claim 41 is believed to be allowable for at least the reason that this claim depends from allowable independent claim 39. *In re Fine, Minnesota Mining and Mfg.Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002).

## CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested.

Any other statements in the Office Action that are not explicitly addressed herein are not intended to be admitted. In addition, any and all findings of inherency are traversed as not having been shown to be necessarily present. Furthermore, any and all findings of well-known art and Official Notice, or statements interpreted similarly, should not be considered well-known for the particular and specific reasons that the claimed combinations are too complex to support such conclusions and because the Office Action does not include specific findings predicated on sound technical and scientific reasoning to support such conclusions.

If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,

  
\_\_\_\_\_  
**Anthony F. Bonner Jr. Reg. No. 55,012**

**THOMAS, KAYDEN,  
HORSTEMEYER & RISLEY, L.L.P.**  
Suite 1750  
100 Galleria Parkway N.W.  
Atlanta, Georgia 30339  
(770) 933-9500